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EXAMINER
RADTKE, MARK A

ART UNIT	PAPER NUMBER
2165	

DATE MAILED: 10/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/648,600	JAIN ET AL.
	Examiner	Art Unit
	Mark A. X Radtke	2165

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>22 August 2006</u>.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-26</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-26</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a) ☐ All　b) ☐ Some * c) ☐ None of:

　　　1. ☐ Certified copies of the priority documents have been received.

　　　2. ☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

SAM RIMELL
PRIMARY EXAMINER

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date <u>6/23/06 7/27/06 8/22/06</u>.

4) ☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

Remarks

1.   In response to communications filed on 13 July 2006, claim(s) 1, 12 and 14-26 is/are

amended per Applicant's request. Therefore, claims 1-26 are presently pending in the

application, of which, claims 1 and 12 are presented in independent form.

In light of Applicant's arguments and amendments, the rejections under 35

U.S.C. 112, second paragraph, are withdrawn. In light of Applicant's amendments, the

"concreteness" rejections under 35 U.S.C. 101 are withdrawn. Examiner notes that

Applicant's argument that the final step of "writing" constitutes a concrete result is

unpersuasive. For the purposes of 35 U.S.C. 101, concreteness is a test for assured,

repeatable results, and should not be confused with tangibility. "Writing" to a database

is a tangible result, but concreteness is established by considering the claim as a whole.

Applicant's amendment of a step of "invoking" fulfills the concreteness requirement.

Applicant's amendments and arguments directed towards the "transmission

media" rejections have been fully considered, but are not deemed persuasive. The

rejections have been upheld. See the "Remarks" section below for further discussion.

In light of Applicant's Terminal Disclaimer, filed on 13 July 2006, approved on 2

August 2006, the nonstatutory double patenting rejections are withdrawn.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3.   Claims 14-26 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. In the Application, page 33, paragraphs [0117]-[0119] disclose that a computer-readable medium comprises "transmission media". Program code contained on transmission media is intangible.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5.   Claims 1-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Skinner et al. (U.S. Patent 6,085,198).

As to claim 1, Skinner et al. teaches a method of storing data into a database (see Abstract), the method comprising:

a client application receiving data (see figure 3, Comm Mgmt 305B and figure 4,

step 400 and column 16, lines 48-49);

determining one or more routines that are associated with a type of said data,

wherein said one or more routines are implemented by a program that is external to

both said client application and a database server that manages said database (see

column 16, lines 49-55, where "routines" is read on "methods");

invoking said one or more routines (see column 18, lines 6-10);

in response to said one or more routines being invoked (see column 18, lines 6-

10), said program performing steps comprising:

determining one or more first values that are specified in said data,

wherein said one or more first values correspond to one or more attributes of said type

(see column 16, lines 60-62 and figure 4, step 404); and

determining one or more second values that correspond to one or more

hidden columns of one or more tables in said database (See column 20, lines 24-27.

The columns are hidden because the data members are private and thus invisible to the

user/programmer.);

generating, based on said one or more first values and said one or more second

values, a data stream that conforms to a format of data blocks of said database (see

column 31, lines 1-2); and

writing said data into one or more data blocks in said database (see column 31,

lines 23-33).

As to claim 2, <u>Skinner et al.</u> teaches further comprising:

in response to said one or more routines being invoked, said program performing steps comprising:

creating a data structure that comprises:

one or more first elements that correspond to said one or more attributes (see column 16, lines 60-62 and figure 4, step 404); and

one or more second elements that correspond to said one or more hidden columns (see column 20, lines 24-27);

populating said one or more first elements with said one or more first values (see column 30, lines 60-67); and

populating said one or more second elements with said one or more second values (See figure 5 and column 19, lines 30-32. It is implicit that these metadata are saved in the database.);

wherein said generating of said data stream is based on said data structure (see column 31, lines 1-2).

As to claim 3, <u>Skinner et al.</u> teaches wherein said data structure is created in memory that is associated with said client application (See column 7, lines 56-63. When Java loads and executes the program, any classes loaded by the application will be in the application's memory space. See also figure 9).

As to claim 4, <u>Skinner et al.</u> teaches wherein at least one of said one or more

second values is associated with said one or more first values and distinguishes said

one or more first values from other values in said data (see column 19, lines 30-60).

As to claim 5, <u>Skinner et al.</u> teaches wherein at least one of said one or more

second values describes a position of said one or more first values relative to other

values in said data (see column 20, lines 7-9, "myPassedMethods").

As to claim 6, <u>Skinner et al.</u> teaches wherein a number of attributes of said type

is not defined to said client application (See column 17, line 65 – column 18, line 5.

Attributes can be determined by calling functions instead of loading documents).

As to claim 7, <u>Skinner et al.</u> teaches wherein a type of an attribute of said type of

said data is not defined to said client application (See column 17, line 65 – column 18,

line 5. Attributes can be determined by calling functions instead of loading documents).

As to claim 8, <u>Skinner et al.</u> teaches wherein said generating and said writing are

performed without causing a Structured Query Language (SQL) engine to load said

data (see column 18, lines 8-12 where "without causing a SQL engine to load said data"

is read on "extracted and loaded directly").

As to claim 9, <u>Skinner et al.</u> teaches wherein determining said one or more routines comprises locating addresses of one or more routines that are in a same entry as an identity of said type (see column 16, line 40, "associated data types").

As to claim 10, <u>Skinner et al.</u> teaches further comprising:

adding, to a table, an entry that indicates an association between said type and said one or more routines (see column 19, lines 66-67 and column 20 lines 15-19).

As to claim 11, <u>Skinner et al.</u> teaches further comprising:

invoking one or more routines that are located at one or more addresses that are associated with said type (see column 18, lines 6-10).

As to claim 12, <u>Skinner et al.</u> teaches a method of storing data into a database (see Abstract), the method comprising:

a client application receiving data that conforms to a first type definition that indicates two or more first attributes, wherein at least one of said two or more first attributes is of a type that is defined by a second type definition that indicates two or more second attributes (See figure 3, Comm Mgmt 305B and figure 4, step 400 and column 16, lines 48-49. "Two or more" attributes is anticipated by references to "attributes" and "parameters", plural, throughout the specification. See column 16, lines 14-30);

determining one or more first routines that are associated with said first type

definition, wherein said one or more first routines are external to both said client

application and a database server that manages said database (see column 16, lines

49-55, where "routines" is read on "methods");

calling said one or more first routines (see column 18, lines 6-10);

in response to one or more calls to said one or more first routines:

creating a first data structure with two or more first elements that

correspond to said two or more first attributes (see column 16, lines 60-62 and figure 4,

step 404); and

populating said two or more first elements with two or more first values

that are specified in said data, wherein said two or more first values correspond to said

two or more first attributes (see column 30, lines 60-67);

calling one or more second routines that are associated with said second type

definition (see column 20, lines 12-14);

in response to one or more calls to said one or more second routines:

creating a second data structure with two or more second elements that

correspond to said two or more second attributes (see column 20, lines 24-27); and

populating said two or more second elements with two or more second

values that are specified in said data, wherein said two or more second values

correspond to said two or more second attributes (See figure 5 and column 19, lines 30-

32. It is implicit that these metadata are saved in the database.);

generating, based on said first data structure and said second data structure, a data stream that conforms to a format of data blocks of said database (see column 31, lines 1-2); and

writing said data into one or more data blocks in said database (see column 31, lines 23-33).

As to claim 13, <u>Skinner et al.</u> teaches further comprising:

generating a set identifier that is associated with one of said one or more first elements (see column 20, lines 29-31); and

populating a plurality of elements in said second data structure with said set identifier (see column 19, lines 30-32).

As to claims 14-26, <u>Skinner et al.</u> teaches a computer-readable storage medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in claims 1-13, respectively (see column 5, lines 50-57).

Response to Arguments

6.   Applicant's arguments filed on 13 July 2006 with respect to the rejected claims in view of the cited references have been fully considered but are not deemed persuasive.

In response to Applicant's arguments that the "amendment remedies the alleged deficiencies of Claims 14-26 under 35 U.S.C. § 101", the arguments have been fully considered but are not deemed persuasive. The specification does not contain an explicit definition of "computer-readable storage medium", and the added term "storage" does not imply tangibility. Statutory computer-readable media are defined in the specification as "volatile" and "non-volatile" media. Examiner recommends amending the claims to recite --A volatile or non-volatile computer-readable medium carrying one or more sequences of instructions-- to overcome this rejection.

In response to Applicant's arguments that "Skinner fails to teach, disclose, or suggest "determining one or more second values that correspond to one or more hidden columns of one or more tables in said database", the arguments have been fully considered but are not deemed persuasive. Applicant notes that "hidden columns store values that are not displayed to a user when the database table that contains the hidden columns is queried". Therefore, it is sufficient to show that private data members are "values that are not **displayed to a user** when the database table [...] is queried" (emph. added). The emphasized text indicates that the hidden status of a column is relative to the user's point of view. Skinner et al. enforces the well-known object oriented programming concept of data hiding (i.e., private and protected data members). In columns 11-12, section "Server-Side Components", Skinner et al. teaches that "[t]hese functions may also include the implementation of a permissions model for determining access permissions and change permissions for different clients or users" (see column

11, lines 35-38). Since access permissions are enforced, private data will not be

presented to the user. From the user's point of view, this is indistinguishable from hiding

the columns at the database level. Although there is an additional logical layer which

enforces the "hidden-ness" of a column, Applicant's own definition of "hidden columns"

only requires that the data is unavailable to a user.

In response to Applicant's arguments that "Skinner fails to teach, disclose, or

suggest" "generating ... a data stream that conforms to a format of data blocks of said

database" and "without causing a Structure Query Language (SQL) engine to load said

data", the arguments have been fully considered but are not deemed persuasive.

Specifically, Applicant cites lines 56-61 of column 17 of the reference and alleges that

the reference discloses "the metadata thus extracted and stored may be applied later".

This interpretation is incorrect. Lines 56-61 refer back to the "text file" method of

metadata loading. ("A parsing program may be used to extract the schema metadata

from the above text file" and "**[t]he above text schema format** may be expanded...",

emph. added) Skinner et al. explicitly mentions that the text file method requires the

additional steps of class and table generation that Applicant has incorrectly attributed to

the "coded format" method cited in the previous Office Action. In the relevant citations in

the previous Office Action, Skinner et al. explicitly mentions direct loading to contrast

the coded format method with the text file method ("may be [...] loaded directly", column

18, lines 9-10). Furthermore, Skinner et al. states that the data can be "loaded directly

into the **desired data structures**" (see column 18, line 10, emph. added), and the

desired (or final) destination for the data is the database. Direct path loading is well-known in the art, and one of ordinary skill in the art would reasonably interprit "loaded directly" to mean "direct loading". For evidence, please see "Conventional and Direct Path Loads" from Oracle9i Database Utilities Release 2, submitted with this Action.

Applicant's arguments specifically regarding the patentability of claim 12 (page 14 of the remarks filed 13 July 2006) appear to be directed towards claim 1 ("In other words, Claim 1 requires", "the specific qualities of the data recited in Claim 1"). Examiner assumes, therefore, that the above discussion of claim 1 addresses Applicant's arguments regarding claim 12. Based on the Examiner's best understanding of the arguments directed specifically towards the limitations of claim 12 as amended, Applicant appears to be arguing that Skinner et al. does not teach multiple inheritance. This is incorrect. Additional support for the rejection can be found in lines 14-17 of column 7: "[s]ome object-oriented programming languages support multiple inheritance". Skinner et al. also discloses that the invention can be implemented "in accordance with known object-oriented programming practices" (see columns 5-6, spanning sentence).

In response to Applicant's arguments regarding claim 5 that Skinner et al. "says nothing about one value describing a position of another value within data", the arguments have been fully considered, but are not deemed persuasive. Skinner et al. mentions pointers and references throughout. The relevant text was cited for teaching

references ("values describing a position") to methods. In any object-oriented system,

parent classes must be able to pass abstract function calls to children implementing

them.

Conclusion

7.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

8.   Any inquiry concerning this communication or earlier communications should be

directed to the examiner, Mark A. Radtke. The examiner's telephone number is (571) 272-

7163, and the examiner can normally be reached between 9 AM and 5 PM, Monday through

Friday.

If attempts to contact the examiner are unsuccessful, the examiner's supervisor, Jeffrey

Gaffin, can be reached at (571) 272-4146.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to Customer Service at (800) 786-9199.

maxr
***

2 October 2006

SAM RIMELL
PRIMARY EXAMINER